REMARKS

Amendments to the specification have been proposed. Support for the amendment may be found on Table 4 in the specification and on page 34, lines 5 through 14 of the specification, which incorporates U.S. Patent No. 5,750,848 (the "'848" patent) by reference. The incorporation by reference in the instant specification is reproduced here:

> Methods of modifying DNA and polypeptides, ***preparing recombinant nucleic acid molecules and vectors***, transformation of cells, expression of polypeptides are known in the art. For guidance, one may consult the following US patent nos. 5,840,537, 5,850,025, 5,858,719, 5,710,018, 5,792,851, 5,851,788, 5,759,788, 5,840,530, 5,789,202, 5,871,983, 5,821,096, 5,876,991, 5,422,108, 5,612,191, 5,804,693, 5,847,258, 5,880,328, 5,767,369, 5,756,684, 5,750,652, 5,824,864, 5,763,211, 5,767,375, or 5,750,848. Many of these patents also provide guidance with respect to ***experimental assays, probes*** and antibodies, transformation of host cells and regeneration of plants, which are described below. These patents, like all other patents, publications (such as articles and Genbank publications) in this application, are incorporated by reference in their entirety. (page 34, lines 5 through 14 of the instant specification, emphasis added)

As stated in the specification, the '848 patent was incorporated by reference for methods of preparing nucleic acid molecules and vectors and for guidance with respect to experimental assays and probes. One of ordinary skill in the art would recognize that the above incorporation included hybridization techniques. Preparing nucleic acids and vectors includes hybridization techniques and hybridization techniques are clearly also probes used in experimental assays. As stated in the Declaration of Maris Apse (included with this response, the "Maris Declaration"), one of skill in the art would understand preparation of nucleic acids and vectors to include cloning of genes. In cloning a gene, one of skill in the art may screen a library of cDNA containing vectors for the presence of the gene of interest by hybridization with a nucleic acid probe. Furthermore the specification further incorporates by reference the '848 patent for "guidance with respect to

experimental assays, probes..." A nucleic acid sequence used in a hybridization assay is a "probe" used in an "experimental assay". Therefore, the hybridization conditions are within the scope of the incorporation by reference

Thus, the proposed amendment imports the hybridization and wash conditions from the '848 patent from column 21, lines 26-36 of the '848 patent. This section of the '848 patent discloses Southern hybridization conditions used to identify related nucleic acid sequences. The paragraph indicates that the final washes are performed for fifteen minutes in 0.5-1.0x SSC, 0.1% SDS at 55° C. (See lines 31-33, column 21) The next sentence of the paragraph in the '848 patent further modifies the final wash conditions such that the SSC concentration is reduced to 0.1x SSC and the temperature is 60° C or 65° C. The two final wash conditions disclosed in the last sentence of the paragraph in the '848 patent incorporated by reference are clearly within the range specified in Table 4 as high stringency conditions. Thus, even though the '848 patent does not specifically refer to the conditions as high stringency, they fall in the range defined by Applicants' specification. Thus, there is support for the recitation "under conditions that include at least one wash in 0.1xSSC, 0.1% SDS, at 65° C for fifteen minutes" in the specification as Applicants have proposed amending the specification by incorporation by reference. Note: for clarity, the conditions in the final wash in the paragraph to be added to the specification has been changed from "0.5-1.0x SSC, 0.1% SDS, at 55° C" to "0.1X SSC, 0.1% SDS, at 60° C, and preferably at 65° C" to avoid confusion since the added paragraph is directed to high stringency binding conditions.

In addition, claims 1, 18, and 53 have been amended to include amino acids that encode proteins with 95% identity to SEQ ID NO:2. Support for this amendment may be found on page 26, lines 10-12 of the specification.

Advisory Actions

Applicants thank the Examiner for indicating that the replies submitted on July 21, 2003 and September 2, 2003 would have overcome the § 112, first paragraph, enablement and written description, § 112, second paragraph, § 102 and § 103 rejections. Applicants have resubmitted the

amendments from the previous replies with a modified specification amendment that should avoid the new matter rejection. Thus, the amendments to the specification and claims are fully responsive to the outstanding objections and rejections.

Claim Amendments

Applicants have further amended pending claims 1, 5, 18, 31, 32, and 53 as suggested by the Examiner in the August 8, 2003 Advisory Action.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicant petitions for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 529642000200.

Dated: March 10, 2004

Respectfully submitted,

By 

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